STATEMENT

By Arthur S. Flemming, Secretary of Health, Education, and Welfare, June 30, 1959

Wax Used for Milk and Food Containers

I AM INFORMED that both the Food and Drug Administration and the Public Health Service are receiving many inquiries about possible cancer-producing agents in wax used for milk cartons and other food containers.

I think we should try to clarify the situation with respect to these waxes.

During the latter part of 1956, Dr. W. C. Hueper, of the Public Health Service, arranged with the Milk Industry Foundation to collect waxes used by dairies for the impregnation of milk containers. Several months later the foundation assembled about 40 waxes for further chemical and biological analysis and sent them to the National Cancer Institute. In June 1957, 24 of these waxes were sent for study to Dr. Philippe Shubik, division of chemistry, Chicago Medical School. Dr. Hueper provided Dr. Shubik with suggestions for the work and data on the economic, chemical, and biological aspects of dairy waxes. A representative sample of each of these waxes was retained by the National Cancer Institute's Environmental Cancer Section of which Dr. Hueper is chief.

In the fall of 1957, Dr. Hueper received a report from Dr. Shubik on results of preliminary tests of the 24 waxes. The studies were performed by Dr. William Lijinsky, an associate of Dr. Shubik's. It was demonstrated in these studies that one of the waxes contained a known carcinogen (cancer-producing agent), 1,2,5,6,-dibenzanthracene. Three additional waxes were suspected but no carcinogen could be identified. It should be noted that while this compound has produced cancer in laboratory animals, 1,2,5,6,-dibenzanthracene has not been shown to produce cancer in man.

A report of the results of this investigation was communicated to Ernest Kellogg, secretary of the Milk Industry Foundation. As a result, Mr. Kellogg asked the American Petroleum Institute for assistance in investigating the problem.

Dairy industry representatives also met with Public Health Service milk and food personnel to map out a program to assure that the waxes used were free from impurities. In November 1957, the American Petroleum Institute made available $100,000 a year for 5 years to support additional studies by Dr. Shubik (Dr. Shubik has indicated that the results will be published as the studies are completed).

Accordingly, Dr. Shubik was supplied an additional sample of 26 representative waxes by the petroleum industry. By the time these new samples were received, Dr. Shubik had improved his analytical techniques to the point where he could identify as little as 1 part of 1,2,5,6,-dibenzanthracene in one-half billion parts of wax. In the earlier experiments, sensitivity was 1 part of 1,2,5,6,-dibenzanthracene in 1 million parts of wax. With the high sensitivity of the new techniques, no dibenzanthracene has been found in any of the 26 samples.

Meanwhile, in 1958, samples of the 24 waxes sent to Dr. Shubik by Dr. Hueper in 1957 also were sent to Dr. Paul Kotin, associate professor of pathology at the University of Southern California. The major results of this study, made by Falk, Kotin, and Miller, were published in the April 25, 1959, issue of a British scientific journal, *Nature*, pp. 1184–85.

The Kotin investigations confirmed the Shubik findings that one wax contained between

0.5 and 1.0 micrograms per gram of 1,2,5,6,-dibenzanthracene. The Kotin investigations demonstrated, in addition, that 1,2,5,6-dibenzanthracene added to dairy waxes for experimental purposes was extracted from thin layers of wax by milk.

The results of these studies have been reviewed by scientists of both the Public Health Service and the Food and Drug Administration. I am advised that the findings are not final, but no indications of a health hazard have been found. The Food and Drug Administration advises there is at present no basis for action concerning these waxes under the Food, Drug, and Cosmetic Act.

The scientists are also agreed that more information is needed. The Food and Drug Administration plans a study of these waxes in its own laboratories if its appropriation for 1960 as now approved by both House and Senate is finally enacted. The Public Health Service also plans to support further studies and to provide technical assistance to the industry in its control program.

It should be pointed out that the new food additives amendment to the Federal Food, Drug, and Cosmetic Act covers the safety of food container materials which incidentally contaminate food, just as it covers additives for direct addition to food.

Permits for Nuclear Waste Disposition

Pennsylvania's Sanitary Water Board has announced seven permits for the discharge of radioactive wastes into streams. Radioactivity of the discharged material is limited to minute levels, and all safeguards are taken to assure that these levels are trivial or insignificant to public health.

The first of these permits, issued November 1, 1957, was for wastes discharged by the Duquesne Light Co. of Pittsburgh into the Ohio River from Shippingport. (*Public Health Reports,* October 1958, pp. 895–901.) Others issued in 1958 were:

March 24. Research laboratory of Mellon Institute of Industrial Research in Penn Township, Westmoreland County, discharging into Bushy Run, tributary of the Monongahela River and two creeks.

March 26. (Amended August 21, 1958.) Research reactor facility of Curtiss-Wright Corporation of Woodridge, N.J., in Covington Township, Clearfield County, discharging into a tributary of Mosquito Creek, flowing into a branch of the Susquehanna River.

March 26. Metallurgical plant of L & S Machine Co., Inc., of Latrobe, in Unity Township, Westmoreland County, discharging into Four Mile Run, tributary of Loyalhanna Creek.

March 26. Plant for research, development, and manufacture of nuclear reactor components of the Nuclear Materials and Equipment Corporation, of Apollo, in Apollo Borough, Armstrong County, discharging indirectly into the Kiskiminetas River.

April 26. Metallurgical plant processing naturally radioactive metals and producing fuel elements, of Westinghouse Electric Corporation of Pittsburgh, in Derry Township, Westmoreland County, discharging into the Conemaugh River.

May 26. Research reactor of Pennsylvania State University at State College, Centre County, discharging into Thompson Run, tributary of two creeks.

December 23. Testing reactor of Westinghouse Electric Corporation of Pittsburgh, in Sewickley and Hempfield Townships, Westmoreland County, discharging into a tributary of Sewickley Creek.